III. REMARKS

Claims 1-20 are pending in this application. By this amendment, claim 12 has been amended. Applicants do not acquiesce in the correctness of the rejections and reserve the right to present specific arguments regarding any rejected claims not specifically addressed. Further, Applicants reserve the right to pursue the full scope of the subject matter of the original claims in a subsequent patent application that claims priority to the instant application. Reconsideration in view of the following remarks is respectfully requested.

In the Office Action, claims 1, 4 and 8 are rejected under the judicially created doctrine of obviousness-type double patenting as allegedly being unpatentable over claims 3, 4 and 15 of U.S. Patent Application No. 10/039,725, hereafter "725 Application" in view of Tenev *et al.* (U.S. Patent No. 6,654,761), hereafter "Tenev." Claims 12-16 are rejected under 35 U.S.C. §101 because the claimed invention is allegedly directed to non-statutory subject matter. Claims 1-3 and 5-20 are rejected under 35 U.S.C. §102(e) as allegedly being anticipated by Tenev.

A. REJECTION OF CLAIMS 12-16 UNDER 35 U.S.C. §101

The Office has rejected claims 12-16 for allegedly being directed to non-statutory subject matter. Applicants respectfully traverse the rejection. Applicants have amended claim 12 to recite, "a computer implemented method for analyzing a tree of hierarchical data." Claims 13-16 depend from claim 12. Applicants assert that this amendment further directs the invention to statutory subject matter. Accordingly, Applicants request that the rejection be withdrawn.

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B. REJECTION OF CLAIMS 1-3 and 5-20 UNDER 35 U.S.C. §102(e)

With regard to the 35 U.S.C. §102(e) rejection over Tenev, Applicants assert that Tenev does not teach each and every feature of the claimed invention. First, with respect to independent claim 1, Tenev fails to teach or suggest a binding system as alleged by the Office. In contrast, Tenev discloses a set of computer routines for modifying a set of nodes in a node link structure to produce a set that is likely to include elements that will be traversed next, i.e., a "predictive node-link set." (Col. 9, lines 26-35.) The Tenev routines are especially adapted for use in conjunction with a web browser to produce a cached set of web pages. (Col. 18, lines 22-27.) The system that Tenev uses in conjunction with its routines has data memory, which contains the following data structures: directed graph data structure, list of node IDs, and miscellaneous data structures. (Col. 7, line 64 through col. 8, line 7; FIG. 4.) The miscellaneous data structures in Tenev are illustrated as being a heap whose elements map to the nodes in the node link structure to facilitate logarithmic access to an individual node. Col. 8, lines 6-12. As such, the miscellaneous data structures in Tenev simply allow logarithmic access to a particular node and do not include logic for more efficiently walking the data. In contrast, the current invention includes "...a binding system for binding a tree observer with a tree, for binding node patterns to node observers to generate at least one node pairing, and for binding the tree observer to at least one node pattern-node observer pairing." (Claim 1.) The binding system as provided in the current invention does not simply map nodes from an ever changing predictive node-link set to elements in a heap as does Tenev. The current invention instead binds graph observers with node pattern/node observer pairings to the data in the existing graph or tree. The logic, patterns, data and other information in these graph observers with node pattern/node observer pairings allow

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the present invention to more efficiently walk a pre-existing data graph. Additionally, the sub-node patterns as included in the present invention further enhance the graph walking efficiency of the present invention. Thus, the binding of graph observers with note pattern/node observer pairings as found in the present invention is not equivalent to the mapping of nodes in a predictive node-link set to elements in a heap as found in Tenev. Applicants assert that this contrast distinguishes the current invention from the prior art and places the application into condition for allowance.

With further respect to independent claim 1, Applicants submit that the Office is incorrect in its argument that Tenev teaches a pattern testing system. The predictive node-link set is stored in the data memory of the Tenev system. (Col. 7, lines 64-66.) Accordingly, the number of nodes in the Tenev predictive node-link set is limited by the size of the data memory. (Col. 11, lines 60-63.) If the addition of a node to the Tenev predictive node-link set would cause the number of nodes to exceed the number that is allowed in memory, Tenev must remove a node in order to add the new node. (Col. 12, lines 20-24.) In deciding which node to remove, Tenev tests a node's orient and map counts to determine whether the node has been recently walked. (Col. 12, lines 60.) Accordingly, Tenev simply compares counters to determine how recently a node has been walked and does not determine whether an encountered node matches one of the node patterns in one of the node pattern/node observer pairings in the graph observers. In contrast, the current invention has "...a pattern testing system for determining if an encountered node matches one of the node patterns." (Claim 1.) This pattern testing system allows for determining if a particular sub-node is present without traversing the graph. This is clearly not

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anticipated by the Tenev comparison of counters referred to by the Office. Accordingly, Applicants request that the Office withdraw its rejection.

With still further respect to independent claim 1, Tenev fails to teach an event manager as alleged by the Office. As stated above, Tenev must decide which node to remove from the predictive node-link set in the case that the addition of a node would cause the total number of nodes to exceed the bounds set by memory. (Col. 12, lines 20-24.) To begin the decision process, Tenev saves the node ID of the topmost node in the predictive node-link set. (Col. 12, line 52.) Tenev then goes through the nodes from bottom to top to find a node that can be removed. (Col. 12, lines 44-46.) If the node that is currently being tested for removal has a node ID that is the same as that of the saved topmost node, all of the nodes have been taken and there are no nodes that can be removed, in which case Tenev returns a null ID. (Col. 13, lines 12-15.) Thus the test in Tenev referred to by the Office simply indicates whether there are any more nodes to be examined. Nowhere does Tenev teach generating an encountered event when one of the node observers is bound to a matching node pattern. In contrast, the current invention includes "...an event manager for generating an encountered event when one of the node observers is bound to a matching node pattern." (Claim 1.) As such, the event manager as included in the claimed invention does not simply return a null ID as does the test in Tenev, but rather generates an encountered event. Furthermore, the encountered event as included in the claimed invention is not returned only after all nodes have been taken as is the null ID in Tenev, but is instead generated when one of the node observers is bound to a matching node pattern. For the above stated reasons, the test that returns a null ID after all nodes have been taken in Tenev is not equivalent to the event manager for generating an encountered event when one of the node

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observers is bound to a matching node pattern as included in the claimed invention. Applicants assert that this contrast distinguishes the current invention from the prior art and places the application into condition for allowance.

With yet still further respect to independent claim 1, Tenev does not teach a pruning system. Tenev provides a way to remove a node from its predictive node-link set. (Col. 14, lines 35-39.) Nowhere, does Tenev teach that instead of removing the node, a tree observer with respect to sub-nodes is deactivated. In contrast, the present invention includes "...a pruning system that can deactivate the tree observer with respect to sub-nodes of the encountered node if a bound node observer determines that there is no interest in the sub-nodes." (Claim 1.) As such, the deactivating as included in the claimed invention does not simply remove nodes from the tree as in Tenev, but rather deactivates the tree observer to with respect to the sub-nodes of the graph that are not part of a particular search pattern. Thus, the Tenev routine that removes a node is not equivalent to the pruning system as included in the claimed invention. Accordingly, Applicants respectfully request that the Office withdraw its rejection.

With respect to independent claims 8, 12 and 17, Applicants hereby incorporate the arguments enumerated above with respect to claim 1. Accordingly, Applicants request that the Office withdraw its rejections.

With regard to the Office's other arguments regarding dependent claims, Applicants herein incorporate the arguments presented above with respect to independent claims listed above. In addition, Applicants submit that all dependent claims are allowable based on their own distinct features. However, for brevity, Applicants will forego addressing each of these

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rejections individually, but reserve the right to do so should it become necessary. Accordingly, Applicants respectfully request that the Office withdraw its rejections.

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C. REJECTION OF CLAIMS 1, 4 and 8 UNDER OBVIOUSNESS TYPE DOUBLE PATENTING

Claims 1, 4 and 8 are rejected under the judicially created doctrine of obviousness-type double patenting over claims 3, 4 and 15 of U.S. Patent No. 6,065,117 in view of Tenev. Initially, Applicants assert, as argued above, that Tenev fails to teach an event manager as included in the claimed invention. Furthermore, the absence, as argued above, of a binding system in Tenev eliminates the motivation or suggestion to combine 725 Application with Tenev. Furthermore, Applicants will, if necessary, address this in a later paper with, e.g., a terminal disclaimer, upon an indication of allowable subject matter.

IV. CONCLUSION

In light of the above, Applicants respectfully submit that all claims are in condition for allowance. Should the Examiner require anything further to place the application in better condition for allowance, the Examiner is invited to contact Applicants' undersigned representative at the number listed below.

Respectfully submitted,

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